

# EUROPEAN PATENT OFFICE

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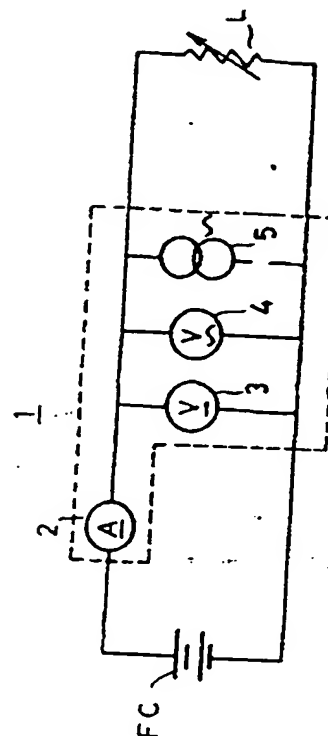
APPLICATION DATE : 20-05-83  
APPLICATION NUMBER : 58089481

APPLICANT : SANYO ELECTRIC CO LTD;

INVENTOR : WASHIMI SHINGO;

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TITLE : TEMPERATURE CONTROL DEVICE OF FUEL CELL



ABSTRACT : PURPOSE: To detect the cell temperature from outside by measuring the internal impedance of a cell.

CONSTITUTION: An impedance measuring device 1 is connected between a fuel cell FC and a load L and is composed of a DC ammeter 2, a DC voltmeter 3, an AC voltmeter 4, and a constant-frequency, constant-current AC generator 5. The AC generator 5 feeds currents in parallel to the cell FC and the DC load L, and the AC voltage displayed on the AC voltmeter 4 is generated by the resultant impedance  $Z_r$  of the internal impedance  $Z$  of the fuel cell FC and the load resistance  $R$ . Accordingly, individual detection signals from the impedance measuring device 1 are inputted to a control unit 6 to calculate the internal impedance  $Z$  of the cell. The value of this  $Z$  depends on the cell temperature, thereby this  $Z$  is used as an output signal to regulate a damper 7 and a blower 8 so as to control the feed air temperature and air quantity.

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